

### REMARKS

Reconsideration of the subject application is requested in view of the foregoing amendments and the following remarks.

Claims 1-33 are the subject of the Office action, in view of claims 34-41 having been previously withdrawn. Claims 34-41 are now canceled as requested, leaving claims 1-33 pending. In this paper, claims 1 and 25 are amended; all other pending claims are unchanged.

The amendments made to claims 1 and 25 are substantially the same. The amendments are made solely to address the contention on page 2 of the Office action that the upper and lower fluid passageways are allegedly not "positively recited" and that the "wherein" clause is allegedly a "process limitation." Also, certain text has been moved (e.g., text concerning the thermally conductive member extending into the lower fluid passageway). In addition, a circulation path is positively recited, as defined by the plate, the upper portion, the upper fluid passageway, the lower portion, and the lower fluid passageway. The specification discusses this circulation on, for example, page 17, line 25 to page 18, line 16, and page 20, line 19 to page 21, line 2. No new matter is introduced.

Applicant traverses certain contentions made on page 2 of the Office action. One of these contentions is, "The claimed upper fluid passageway and lower fluid passageway defined by the plate clearly do not form part of the claimed distillation pot as they are not positively recited as elements of the apparatus." [Emphasis added.] Applicant replies by stating firstly that the examiner has cited no legal authority for her contention. Secondly, the word "clearly" appears to be overly presumptuous, especially in view of the variety of ways in which elements can be set forth in patent claims. Third, the claims are properly understood from reference to the specification, of which the claims are a part. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315, 79 U.S.P.Q.2d 1321, 1327 (Fed. Cir. 2005) (*en banc*). Familiarity with the specification of the instant application will indicate that the upper and lower fluid passageways indeed are a part of the claimed distillation pot.

Another of these contentions is, "A definition of the distillation pot apparatus with reference to something that does not belong to the pot . . . ." Again, the examiner has not cited any legal authority, and appears to be overly presumptuous regarding what does and does not "belong to the pot."

Claims 1-5 and 24-25 stand rejected for alleged obviousness from LaViolette. This rejection is traversed.

As noted above, claims 1 and 25 were amended in the same manner. Claim 25 includes a condensing unit, whereas claim 1 does not.

Claim 1 as amended is directed to a distillation pot that includes the following elements:

(a) walls, including a heated wall, and a cover that collectively define an interior space in which a liquid is contained as the liquid is being heated in the pot for a distillation purpose, the walls and cover having respective inside surfaces;

(b) a plate configured and situated in the interior space so as to divide the space into an upper portion and a lower portion;

(c) an upper fluid passageway and a lower fluid passageway defined by the plate in the interior space;

(d) a thermally conductive member extending from a location on an inside surface of a wall into the lower fluid passageway so as to be contacted by the liquid in the lower fluid passageway whenever the pot contains liquid being heated for distillation,

(e) the thermally conductive member is a direct thermal connection from the liquid to a corresponding location outside the wall, adjacent the location on the inside surface, at which the temperature of the liquid in the pot can be sensed,

(f) the plate, the upper portion, the upper fluid passageway, the lower portion, and the lower fluid passageway define a circulation path for the liquid being heated in the pot, the circulation path being configured such that the liquid circulates from the lower portion through the upper fluid passageway to the upper portion, and from the upper portion through the lower fluid passageway past the thermally conductive member to the lower portion.

LaViolette is directed to a solar still, in which the entire process of heating water, forming water vapor from the heated water, and condensing the vapor to form water occurs in the apparatus 1. In other words, the apparatus 1 is a distillation system, not just a distillation pot. The apparatus 1 of LaViolette is made largely of flexible plastic film, including the tube 9 having an upper layer 11 and a lower layer 10 (paragraph 0051). The lower layer 10 is a light-transmitting film that divides the air space of the still into a lower evaporator air duct 15 and an

overlying upper condenser air duct 16 (paragraph 0056). The lower evaporator air duct contains the water 6 to be solar-distilled (FIG. 2).

The Office action contends that the lower layer 10 is the instantly claimed plate. This contention is traversed. The tube 9 (including its layers 10, 11) must be inflated by a fan 8 for use (paragraph 0056); hence, the layer 10 is not a "plate." The fan 8 draws air from the upper condenser air duct 16 through a first opening 12 and exhausts it down the length of the lower evaporator air duct 15; the air then passes through a second opening 13 back to the upper condenser air duct 16 (paragraph 0056). The upper condenser air duct 16 is not a portion of a distillation pot as claimed; rather, it is the condenser (hence its name "upper condenser air duct"). Thus, the layer 10 does not divide a distillation pot in the manner claimed.

Also, the plate in claim 1 constitutes a portion of the circulation path by which liquid circulates from the lower portion to the upper portion and from the upper portion to the lower portion. The layer 10 does not constitute such a portion of a circulation path for liquid. Liquid 17 condensed in the upper condenser air duct 16 is collected by the "fresh water out" 24 and not returned to the water 6 in the lower evaporator air duct 15.

Claim 1 also includes a thermally conductive member that is a direct thermal connection from the liquid to a location outside the wall at which the temperature of the liquid in the pot can be sensed. The LaViolette apparatus has no such thermally conductive member. Also, contrary to the contention at the top of page 3 of the Office action, LaViolette's paragraph 0030 does not suggest the claimed thermally conductive member, either. Paragraph 0030 refers firstly to certain prior-art solar stills in which "evaporator and condenser air ducts are not juxtaposed and do not share a thermally conductive wall along their length, nor are thermal gradients established along the length of the air ducts to assist heat flow from the evaporator to the condenser." Thus, these stills (concerned with the arrangement of air ducts) teach away from any kind of thermally conductive member that is a direct thermal connection from the liquid to a location outside the wall at which the temperature of the liquid in the pot can be sensed. Furthermore, solar stills function over a range of temperatures and do not require temperature monitoring of liquid being distilled and do not require that the source liquid be held at a particular temperature. Paragraph 0030 refers secondly to the Dobell design, which is a solar still in which evaporator and condenser air ducts are juxtaposed and share a common wall. This particular common wall is situated inside the apparatus and "is not made of a thin film or of thermally conductive material

that would allow heat to transfer at an appreciable rate from the condenser airstream to the evaporator airstream." [Emphasis added.] Thus, the Dobell wall does not provide any teaching or suggestion of the instantly claimed thermally conductive member that is a direct thermal connection from the liquid to a location outside the wall at which the temperature of the liquid in the pot can be sensed. Applicant concedes that many types of apparatus have thermally conductive walls. But, Applicant is not attempting to claim the universe of such apparatus. Furthermore, such walls in general do not lead the skilled person inevitably to the instantly claimed thermally conductive member, especially when such walls are in apparatus in which temperature sensing is unnecessary and hence is not done.

Also, in claim 1, the thermally conductive member extends from a location on an inside surface of a wall into the lower fluid passageway so as to be contacted by the liquid in the lower fluid passageway whenever the pot contains liquid heated for distillation. The LaViolette apparatus has no such thermally conductive member. Temperature sensing in LaViolette is unnecessary because the LaViolette apparatus is a solar still, which functions over a range of temperatures and does not require that the source liquid be boiled or held at a particular temperature. Hence, LaViolette has no need of the claimed thermally conductive member.

Claim 1 also includes a circulation path defined by the plate, the upper portion, the upper fluid passageway, the lower portion, and the lower fluid passageway. The circulation path is for the liquid being heated in the pot, and is configured such that the liquid circulates from the lower portion through the upper fluid passageway to the upper portion, and from the upper portion through the lower fluid passageway past the thermally conductive member to the lower portion. The LaViolette apparatus has no circulation path for liquid. As noted above, liquid 17 condensed in the upper condenser air duct 16 is collected by the "fresh water out" 24 and not returned to the water 6 in the lower evaporator air duct 15. Hence, liquid does not circulate as claimed.

Therefore, claim 1 and its dependents are properly allowable over LaViolette.

Claims 2-5 depend from claim 1 and include all the elements of claim 1. Hence, claims 2-5 are properly allowable over LaViolette for all the reasons discussed above regarding claim 1. Claims 2-5 are also allowable because each of these claims contributes at least one respective element to the combination of elements in claim 1 that is not taught or suggested by LaViolette.

Claim 25 as amended includes all the elements recited in claim 1 as well as a condensing unit. Therefore, claim 25 is properly allowable over LaViolette for all the reasons discussed above regarding claim 1.

Claim 24 is in means-plus-function format. As discussed above, LaViolette fails to disclose or suggest anything concerning the recited "thermal conduction means" (which is unnecessary in a LaViolette system). Also, LaViolette fails to disclose or suggest circulation of liquid in the manner recited in claim 24.

Therefore, claim 24 is properly allowable over LaViolette.


All the pending claims are in condition for allowance, and early action to such end is requested.

Respectfully submitted,

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